Process Improvement in Healthcare Facility Benchmarking

Report Data Collection and Delivery Methods for Healthcare Facility Maintenance

by

Jeffrey Chalmers

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Graduate Supervisory Committee:

Kenneth Sullivan, Chair
Jake Smithwick
Kristen Hurtado

ARIZONA STATE UNIVERSITY

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ABSTRACT

Academic literature and industry benchmarking reports were reviewed to determine the way facilities benchmarking reports were perceived in the healthcare industry. Interviews were conducted through a Delphi panel of industry professionals who met experience and other credential requirements. Two separate rounds of interviewing were conducted where each candidate was asked the same questions to determine the current views of benchmarking reports and associated data in the healthcare industry. The questions asked in the second round were developed from the answers to the first-round questions. The research showed the panel preferred changes in the data collection methods as well as changes in the way the data is presented. The need for these changes was unanimous among the members of the panel. The main recommendations among the group were:

1. An interactive method such as a member portal with the ability to customize, run scenarios, and save data is the preferred method.

2. Facilities Management (FM) teams are often not included in the data collection of the benchmark reports. Including FM groups would allow more accuracy and more detailed data resulting in more accurate and in-depth reports.

3. More consistency and "apples to apples" comparisons need to be provided in the reports. More categories and variables need to be added to the reports to offer more in depth comparisons and assessments between buildings. Identifiers to help the users compare the physical condition of their facility to others needs to be included. Suggestions are as follows:

a. Facility Condition Index (FCI)- easily available to all participants and allows an idea of the comparison of upkeep and maintenance of their facility to that of others.

b. An indicator on whether the comparison buildings are Centers for Medicare and Medicaid Services (CMS) accredited.

4. Gross Square Footage (GSF) is not an accurate assessment on its own. Too many variables are left unidentified to offer an accurate assessment with this method alone.

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CHAPTER 1

INTRODUCTION

Research literature and popular benchmarking reports were reviewed to

determine the way facilities benchmarking reports were perceived in the healthcare

industry. Interviews of industry professionals who met the predetermined experience

and other qualification were conducted through the Delphi panel model. Two separate

rounds of interviewing were conducted through this model in which each candidate was

asked the same questions to determine the current perception of benchmarking reports

and data were in the healthcare industry. The questions asked in the second Delphi

panel round were created from the answers to the first-round questions. The research

showed the panel preferred changes in the data collection methods to the benchmarking

surveys as well as changes in the way the data is presented. The need for these changes

was a unanimous consensus among the members of the panel.

Problem Statement

In the facility management (FM) industry, a gap exists with current

benchmarking data. Current benchmarking data is used to provide information to FM

staff, accounting, and other building operators or managers by comparing groups of

buildings in related markets to determine the average or percentile usage of various

categories. Some of these categories include utility costs, maintenance costs and staffing,

environmental services costs and staffing, and other operations costs. The

benchmarking data information is typically provided voluntarily by the building owner

or representative via various collection methods, the most common being electronic.

FM groups perform various roles in a wide majority of industries.

Responsibilities and job functions consist of design team participation, maintenance,

repair, and renovation of buildings and infrastructure assets. This includes building

systems such as heating ventilation and air conditioning (HVAC), plumbing, lighting,

building structure, roofs, interior finishes parking lot and parking structures. The

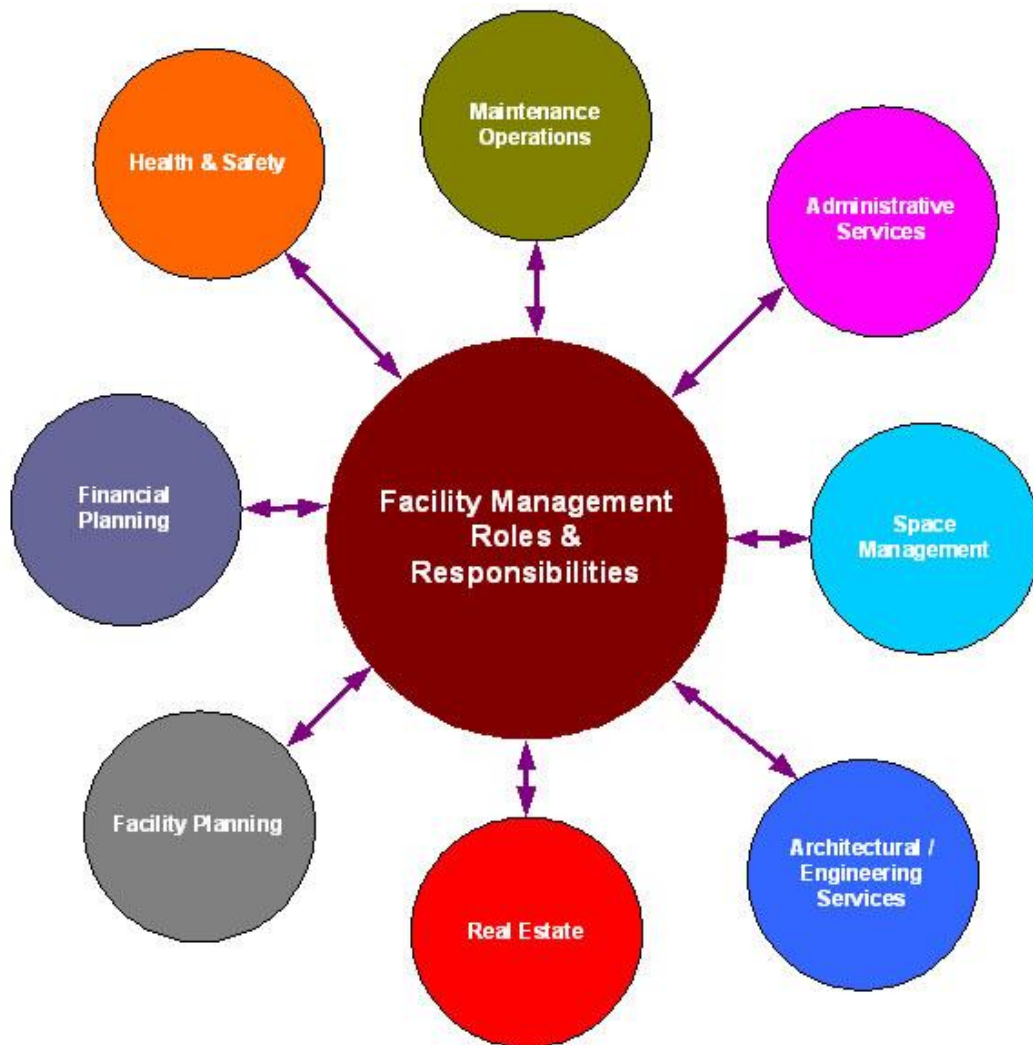following provides an overview of roles and responsibilities for facility managers.

Figure 1. Example Roles that may be Performed by a Facility Manager.

(http://www.aaafm.com, 2020)

Facility managers are usually employed by the building owner and work to protect the building owners' assets and investments in their buildings and other fixed assets.

The information is then compiled to provide target ranges to building owners and operators to provide them with average or median costs and number of employees in these categories. While these surveys are valuable and help guide in decision making, there are gaps that exist in the data collection and processing methods.

Research Objective

The purpose of this research was to determine the following:

1. Identify the specific gaps that exist in the current benchmarking data collection and delivery methods
2. Identify the extent and range of these gaps with specific details
3. Identify the tools, resources, data collection methodologies needed to solve the gaps and deficiencies

The research was completed through an extensive literature review on the topic of facility benchmarking with specific emphasis on healthcare benchmarking. A Delphi panel was then assembled and interviewed through two different rounds of question and answers. The findings from this Delphi panel supplied the recommendations on solving the deficiencies in the current benchmarking reports.

Summary of Research Methodology

A Delphi panel was assembled to formulate questions and responses for feedback on the usage and accuracy of facility benchmarking reports. Each volunteer was invited based on the criteria and credentials listed below.

Credentials

1. Tenure- 10 years facility management experience

2. Healthcare experience- at least two years in healthcare

3. Statistical background- experience in developing and operating full time
    equivalent (FTE) budgets

4. Experience with surveys- experience using benchmarking reports

5. Position- currently working in healthcare facility management or have worked in
    the field within the past three years

Scope of Research

  The target audience for this Delphi panel were practicing healthcare facility
managers in Utah. The industries evaluated were healthcare including outpatient care,
inpatient care, primary care, and outpatient care. Each panelist was invited due to their
work experience in healthcare FM; either present or past. The emphasis on this research
was the benchmarking data collection and delivery methods for healthcare FM in Utah.

CHAPTER 2

LITERATURE REVIEW

Overview

A literature review was conducted to review the current published information

and to evaluate what data exists and what benchmarking methods are available. A lack

in consistency of comparison was identified, specifically in healthcare buildings. While

the *International Facilities Management Association Benchmarking 2.0 Health Care*

Facility Management Report- 2013 (IFMA, 2013) comes the closest to providing

accurate comparisons, it still does not accurately compare healthcare buildings.

The International Facilities Management Association (IFMA) Benchmarking

report offers valuable grouping factors and criteria such as facility age, facility setting

(acute care, behavioral care, critical care, etc.), exterior gross area, and building square

footage. Not all categories were used in comparing all items in the report. For example,

in the maintenance staffing section of the report the only comparing factors used were

trade type and facility size which were compared in gross square footage of the facility.

This was common in other benchmarking reports including the *IFMA*

Benchmarks V Research Report #30- Annual Facility Costs. GSF was the most common

comparison factor among the benchmarking reports and other literature reviewed.

Analysis of Literature Review

The most prominent problem to be solved was what information is missing from

the current benchmark reports. During the process of the literature review it was noted

that most benchmarking reports do not include comparison factors beyond GSF and

trade type for maintenance staffing Full Time Equivalents (FTE). Some of the items that

would be useful to the FM profession to include in the benchmarking reports would be
other comparison factors including:

1. Facility Condition Index (FCI) - An overall assessment of building repair,
    maintenance, and replacement that identifies overall deficiencies given in
    a number value. The lower the number score the less overall deficiencies
    identified for the building.

    (1)

    $$FCI = \frac{Current\ Maintenance, Repair, and\ Replacement\ Costs}{Current\ Replacement\ Value\ of\ Facility}$$

    There are many versions of this report that exist. One example is from the
    IFMA community page detailing the FCI process for facilities
    management. (IFMA Community, 2020)

2. Facility Condition Assessment (FCA)- many different methods exist to
    score and calculate overall condition of a building. The FCA method
    tends to focus more on the equipment and assets of a building. One
    example is from FMLink. (FMLink, 2020)

3. CMS accreditation- This assessment is specific to the healthcare industry
    and is performed by a third-party company. This accreditation is
    organization wide but has a specific part focusing on FM. It is an
    intensive process involving documentation review as well as physical
    facilities inspections. The Joint Commission is one of the third-party
    accreditation organizations. (The Joint Commission, 2020)

After reviewing the information available about benchmarking reports, including IFMA benchmarking reports, it was noticed that although benchmarking methods are improving there is still a gap. The problem trying to be solved is where are the gaps, are they solvable, and how are they solved. The main problem found with benchmarking reports while performing the literature review was the lack of industry specific information. Many are targeted towards general building operations and some towards specific industries such as health care, but most are general.

The problem with this approach is the lack of consistency and an apples-to-apples comparison format. The operating styles of healthcare buildings compared to those of other industries are very different. The toilet room densities, sink densities, medical air, etc. are much different than those of an office building or manufacturing facility. The problem that arises throughout current benchmark reports is the lack of the necessary variables for an accurate comparison.

The amount of maintenance that a building with higher toilet room density and more stringent healthcare requirements is much greater than a similar sized office building. Many of the benchmarking reports have these buildings in the same category grouping them by common square footage. Square footage should be a variable in the equation for factors such as maintenance staffing, personnel budgets, operating budgets, and utility usage budgets but it should not be the only factor in the equation.

The survey does capture a broad range of industry types, but the concern is each industry is being compared against the other in terms of FTE headcount and utilities cost usage per square foot. Using only square footage to compare the two is a concern because internally the buildings would be very different and require different amounts of maintenance. An office building largely occupied by a call center would require less facilities maintenance than a hospital, with toilet rooms, medical gas, medical vacuum,

and hospital beds in each room. These items are labor intensive and require far more FM upkeep than a call center.

IFMA benchmarking reports contain useful information, but gaps exist in that specific industry types are compared against each other.

Institution	Number of Cases (N)	Percentage of Sample	Definition
Academic or Research Hospital	17	9%	*Academic or research health care organizations are those which are often linked to a medical school and/or research facility.*
Acute Care Hospital	118	64%	*An institution that is primarily engaged in providing diagnostic and therapeutic services for medical diagnosis, treatment and care, by or under the supervision of physicians, to injured, disabled, or sick persons or rehabilitation services for injured, disabled, or sick persons.*
Behavioral Care Facility	2	1%	*An outpatient treatment center for psychiatric and mental disorders, Alzheimer's and developmentally disabled. Outpatient and psychiatric counseling for substance abuse patients.*
Children's Hospital	9	5%	*An institution for health care providing patient treatment by specialized staff and equipment, and often, but not always, providing for longer-term patient stays, which offers its services exclusively to children. Children's hospitals are characterized by greater attention to the psychosocial support of children and their families.*
Outpatient Health Care Center	6	3%	*An outpatient clinic where persons can receive a wide range of medical services including diagnostic services, laboratory services and imaging.*
Critical Access Hospital	9	5%	*Critical Access Hospitals (CAH) are rural community hospitals that receive cost-based reimbursement.*
Long-term Care/Nursing Home	8	4%	*A facility that provides rehabilitative, restorative, and/or ongoing skilled nursing care to patients or residents in need of assistance with activities of daily living.*
Medical Center	13	7%	*A large medical complex that provides a comprehensive array of health care services in both outpatient and inpatient settings.*
Rehabilitation Center/Hospital	2	1%	*A recovery facility oriented toward long-term treatment and training of sick/injured persons so they can function in society. Rehabilitation centers specialize in physical therapy for trauma/stroke victims.*

Figure 2. Common Types of Healthcare Included in Benchmarking Reports. (IFMA, 2013).

The IFMA Benchmarking 2.0 Health Care Facility Management Report closes a gap of industry type comparisons by narrowing the scope to just healthcare facilities in North America. This report references different healthcare institutions by type, as referenced in the Figure above.

This Report does a decent job listing facilities by institution, climate zones, facility age, facility setting, and outside acreage as well as interior square footage. When comparing facility utilities usage this report does a decent job of comparing utility costs by climate, facility age, and type of institution. This report also compares maintenance costs by region, institution, age of facility, and facility size. However, when comparing facilities maintenance staffing these factors are not included. The most prominent metric in comparing maintenance staffing is the number of FTEs per square foot. A sample of the metrics for stationary engineers is listed below.

Stationery Engineers

Facility Size (GSF)	N	Number of FTEs	% In-house	% Contract	Number of shifts per day
Less than 250,000	11	1.59	100%	0%	1.7
250,001-500,000	11	3.57	100%	0%	1.3
500,001-750,000	7	6.57	100%	0%	2.3
750,001-1,000,000	4	7.24	100%	0%	2.4
1,000,001-2,000,000	11	11.64	100%	0%	2.2
More than 2,000,000	8	11.00	100%	0%	2.4

Figure 3. Example of How FTE Per Square Foot is Categorized. (IFMA, 2013).

The factors listed in other areas of the report such as facility age, facility setting, outside acreage, and usage are not included in this part of the report. This is where the largest gaps still exist.

Summary and Conclusion

Through review of the above-mentioned literature and benchmarking reports the conclusion was made that gaps exist in the collection methods. A current benchmarking method that captures all the variables in the equation of operating and maintaining a healthcare facility was not identified. Unique characteristics such as age, operational type, interior finishes, and occupancy, are not consistently used throughout all benchmarking reports and even not used consistently within the same reports. The comparisons made within the benchmark reports are not properly representing each type of building regarding function, occupancy load, finishes, etc.

Major building equipment such as mechanical equipment density and plumbing equipment density are not included in the comparisons. There is not enough detail regarding the comparison of mechanical equipment to estimate labor and upkeep costs regarding this equipment.

CHAPTER 3

RESEARCH METHODOLOGY

Delphi Panel Method Summary

The Delphi Panel Method was selected for this research process due to the proven nature of gathering and forecasting data and information from an assembled panel of experts.

A Delphi Panel was assembled consisting of members with a FM background and specific experience in healthcare. The credentials for the Delphi panelists were constructed by researching median experience levels of benchmarking respondents as well as patterning after other surveys. The credentials are listed below.

1. Tenure- 10 years facility management experience

2. Healthcare experience- at least two years in healthcare

3. Statistical background- experience in developing and operating FTE budgets

4. Experience with surveys- experience using benchmarking reports

5. Position- currently working in healthcare FM or have worked in the field within the past three years

Eighteen candidates meeting the required criteria were invited to participate on the panel. These panelists were selected based on known professional associations, recommendations of other experts, and individuals serving in healthcare FM leadership positions. All candidates invited and selected for the panel were residing in and working in Utah at the time of their invitation to join the panel. Of the 18 individuals invited, eight responded and participated in the Delphi panel.

Once the panelists were identified, each were contacted and advised of the time requirements. All were informed there would potentially be two-three rounds of questioning involving a 20-30-minute phone interview for each round.

Round One Delphi Panel

Round one consisted of a phone interview with each candidate where they were asked the following questions:

1. What is missing from existing facility benchmarking reports?

2. What information in current benchmarking reports is helpful?

3. How do you use the benchmarking data in your organization?

4. What would be your preferred method for the data to be presented to you?

5. Have you currently participated (responded to) a benchmarking survey?

    a. What improvements could be made as far as collecting the data

6. Are there other colleagues you know that would be valuable to participate in this survey?

Phone interviews were conducted on April 4th, 2017, April 12th, 2017, and April 20th, 2017. The phone interviews ranged from 8-42 minutes with the average being 24 minutes long.

The answers to the round one questions were then compiled and analyzed. The round two questions were derived by analyzing the round one answers and determining patterns in the answers. The round two questions are a more in-depth exploration of trends and patterns identified in round one.

Round Two Delphi Panel

Round two consisted of another phone interview with each of the eight candidates. The questions asked in round two were:

1. What delivery format for benchmarking survey results would be most useful?

2. Which group/position would best serve as the contact point for gathering facility benchmarking data?

3. What changes could be made to the survey to make it more consistent?

4. Is justifying FTEs your primary use of benchmarking reports?

5. Other than square footage, what additional information would be helpful to include in the surveys?

6. Other than square footage, what other categories would be helpful to include in the surveys?

Phone interviews were conducted on April 12th, 2018 and April 14th, 2018. The phone interviews ranged from 5- 23 minutes with the average being 12 minutes long. The answers to these questions were compiled and analyzed to determine the findings of this research assignment.

CHAPTER 4

DATA COLLECTION/ANALYSIS- DELPHI PANEL

Overview

Several trends were identified in the analysis of the Delphi responses. The panel responses confirmed deficiencies and gaps exist in the data collection and delivery methods. The most common item identified was the lack in information that offered accurate comparisons of distinct types of buildings. Even within the same operating type of building the opinion exists there is no accurate comparison method currently in use.

Round One Delphi Panel

Round one answers generated the most discussion and opinions. The following tables list common themes in the answers and helps to identify trends.

Question One

What is missing from existing facility benchmarking reports?

Table 1
Round One Question One Summary

Delphi Panelists' Categorization	Frequency of Response
Lack in comparable data	5
Information hard to retrieve from report	1
Industry standard building comparisons	2
Comparisons other than square footage	3
Key performance indicators	2
Comparison for mechanical equipment	1
Control group	1
Clarity in what is included in GSF	2
Factor in contracted work	1
More accuracy in FTE count	1

a. Not all apples to apples. The information curve could be more accurate

b. They don't take into consideration different facilities and operations. They do not take specifics into account.

c. Target information- only have a number. Don't fully capture expectations.

d. Hard to get information. Information seems to go out of date quickly.

e. The whole thing! Data that is meaningful to every organization. Key performance indicators (KPI). An industry standard of what the KPI's are. The current KPI's are not used in the current organization.

f. Greater analysis of operational similarities and location rather than just square footage comparison.

g. Most important thing missing is something to level the playing field. Square footage does not cut it. Toilet room density, sink density is not factored in. Some facilities have more equipment per square foot. A small hospital may have multiple small chillers that are as much work as a large hospital with one chiller. Inconsistencies in the data numbers makes it hard to compare the data. There needs to be a control group. Possibly interviews rather than electronic surveys. Hard to determine which employees fit where. What is counted as square footage and what is not? Square footage is interpreted differently. The data collection process has too many inconsistencies.

h. Consistency in the data that is reported. Also, consideration or an accurate way to factor in contracted work rather than self-performed. Clarification between FTEs- are we counting heads or FTEs. Are we subtracting out meetings, vacations, etc. and are we counting one FTE as one person? There tends to be secrecy on who is responding to the surveys. Are we seeing accuracy? We need more transparency in respondent credentials and background.

Question Two

What information in current benchmarking reports was helpful?

Table 2

Round One Question Two Summary

Delphi Panelists' Categorization	Frequency of Response
Cost per square foot	1
FTEs per square foot	4
Utility costs	2
Amount of equipment	1
Building condition assessments	1
How to measure square footage per FTE	1

a. Cost per square foot. Also, FTEs per square foot.

b. Big corporations go by amount of equipment they service

c. Building condition assessments

d. Square footage per FTE for facilities, HVAC, electrical, janitorial, and plumbing.

e. Square footage information. Utility costs and operational costs are helpful. I have seen these in most organizations.

f. Utility usage and costs for similarly sized, located and functioning entities.

g. Staffing levels. The data still provides a broad target to shoot for even though it is not accurate. The finance departments use data for staffing, and it is not accurate. If we are being held to data for staffing numbers, the comparison data needs to be accurate.

h. It would be good to better understand reports. No data is particularly

   helpful right now. How do we measure square footage per employee? Is

   healthcare counted differently? How is healthcare square footage

   calculated? Are we considering Mechanical? Data is not as useful as it

   could be or should be.

Question Three

How do you use the benchmarking data in your organization?

Table 3

Round One Question Three Summary

Delphi Panelists' Categorization	Frequency of Response
Best practices	1
Generalizations	1
Planning documents	1
Hiring FTEs	3
Construction costs	1
Looking for trends	1

a. To look for best practices and to compare and develop best practices.

b. I use it for a generalization. Where we should be and then investigate the

   details. If someone is different then we find out why.

c. Generating planning documents gives us an idea of the future.

d. Justify hiring FTEs. We shoot for the 50th percentile range and go from there. Accounting does not allow is to go beyond that number. We also use it for FTE forecasting.

e. For my role specifically construction costs are used. GSF means are used more specifically. Budget forecasting to be specific. I also use the information for staffing.

f. Looking for anomalies or trends in utility usage for buildings that are similar in size and function and share the same heating & cooling mediums from a central plant.

g. We use the data to justify becoming leaner. We try to meet the 50th percentile of reports. I look at those areas to shuffle guys around.

h. We look at 50th percentile and try to reduce staffing to 50th percentile.

Question Four

What would be your preferred method for the data to be presented to you?

Table 4
Round One Question Four Summary

Delphi Panelists' Categorization	Frequency of Response
Cost per square foot	1
Generalization	1
Digital/Online format	4
More region specific	1
Query/Interactive	2
Categorized by size and type	1

a. Cost per square foot. FTE per square foot ranking. 50%- 75% is the range we shoot for.

b. Graphs, online data I can see quickly. Something visual. Something that can be accessed online or from my computer that I can save.

c. In an online format I can manipulate myself. I would like the data to be customizable to my organization.

d. In a report that is written and accessible online. More region specific. There is not a good category comparing medical clinics versus hospitals.

e. Some form of a query would be nice. You know what you're looking for and don't need to search through a lot of data. Instead of making the data prove your point, query the data. Also regionalizing the data would be good. Not all buildings use the same data or operate the same way so regionalized data would be good. Also, a query and sort data by more similar occupancy types. Graphs and numbers are always nice.

f. Digitally and saved on a server for archiving purposes to obtain historical trends.

g. Interactive website where I can customize the numbers and run scenarios. It would be nice to forecast using a customizable field or calculator.

h. Hospitals categorized by size, type, (acute, specialty). I would like to understand H-cap or Gallup comparisons to Joint Commission survey results. Are we comparing good hospitals to good hospitals? Or are we comparing a well ran, well managed building to a poorly ran, low scoring building? What does the FCI look like? What condition is the hospital in?

Is there deferred maintenance? We need more depth and a better

understanding of what we are being compared to.

Question Five

Have you currently participated (responded to) a benchmarking survey?

Table 5

Round One Question Five Summary

Delphi Panelists' Categorization	Frequency of Response
Yes	5
No	3

a. Yes.

b. Yes. I have done the American Society of Healthcare Engineers (ASHE)

ones.

c. Yes, lots. I work for the government through the VA and have

participated there. I have also participated through Utah Society of

Healthcare Engineers (USHE).

d. No

e. No

f. Yes, at my previous job.

g. Yes

h. No. Accounting and staffing are the ones responding to benchmarking

reports at my company. HR is also responding.

Question Six

Are there other colleagues you know that would be valuable to participate in this survey?

Table 6

Round One Question Six Summary

Delphi Panelists' Categorization	Frequency of Response
No	8

a. No
b. No
c. No
d. No
e. No
f. No
g. No
h. No

Round Two Delphi Panel

Question One

What delivery format for benchmarking survey results would be most useful?

Table 7

Round Two Question One Summary

Delphi Panelists' Categorization	Frequency of Response
Online	3
Customizable	1
Visual	2
Searchable	3
Comparable	2
Other than square footage	1

a. Online customizable data would be valuable. Data that can be used for different scenarios. I would like data I can use to forecast and predict with. That would be a huge improvement.

b. I would like to see visual data. I need to be able to see it and not just read it. I would like to see some graphs showing the average information.

c. I think it would be nice if it was more visual. Graphs, charts, etc. Also, if the data was searchable that would be a good improvement. That data would be very useful. Yes, it would be good if I could search it.

d. Something that is quick and easy to interpret. Something that I can see in different cases for different buildings. It would be nice to see information that can be compared.

e. A format where the data can be queried. Data that can be searched through and analyzed. Right now, the data is inconsistent and not useful. It needs to be data that can be helpful and add value to the organization.

Also, more detailed information giving characteristics of the other

buildings. Categorize them somehow.

f. I don't think the delivery method is as important as the information that

is delivered. Online, searchable data would be ideal. Mostly I am

concerned with what is being delivered. A website that can be repeatedly

accessed and shared across my group would be nice. I would like to be

able to run scenarios with it.

g. Online with different regions

h. Information other than just square footage. Something that can be used

to make better decision. An electronic format would be helpful.

Something that can be searched and saved so it can be accessed later.

Question Two

Which group/position would best serve as the contact point for gathering facility

benchmarking data?

Table 8

Round Two Question Two Summary

Delphi Panelists' Categorization	Frequency of Response
Facilities	8
Involve departments other than finance	1

a. It would be nice if facilities were included in responding to the survey. I

might not have all the answer, but I would like to be included.

b. The surveys should be answered by facilities or at least let us help. It seems that HR answers the surveys and we don't get a say.

c. Facilities should be responding to the surveys. I know that is not what is happening, but it should be.

d. Not finance. Facilities needs to be involved with this information. Finance can help add information, but facilities should be involved. At the very least notified of what information was given for the survey. It would be best to send the surveys to Facilities to oversee filling out.

e. Facilities management needs to be involved with filling out these surveys. Accounting and HR are the ones doing it now and they are good to respond but they do not understand the data. The first step in making this data more accurate is to collect more accurate data.

f. At my building finance and HR are filling out the surveys. I would like to be involved in the process. I need to be able to help. I have asked these groups to involve me in all future benchmarking.

g. Facilities Management

h. Facilities Management

Question Three

What changes could be made to the survey to make it more consistent?

Table 9

Round Two Question Three Summary

Delphi Panelists' Categorization	Frequency of Response
More consistency	2
Better comparison of different buildings	4
More consistent KPI's	1
Geographical	1
More apples to apples comparison	2

a. I would like to see more consistency between the buildings that are surveyed. What other buildings am I being compared to? I would like to know that.

b. Different types of buildings should have different information in the surveys. I don't know which buildings my building is compared to. I need to know more about that.

c. I don't know who is being compared to what. Using the same KPI's would make it easier to justify using that data.

d. It needs to be more apples to apples. It would be nice to see how our buildings compare to others.

e. It needs to be consistent and right now I have no way of knowing if it is. Even in the buildings in my current job I can see inconsistencies in the reporting of the data.

f. The playing field needs to be leveled. We need to see more details about what we are reporting on. Geographical area would be nice to see. Ideally, we need more consistency.

g. More apples to apple comparisons. I like the FTE square footage numbers.

h. More detail to distinguish between buildings. I want to know more than just square footage.

Question Four

Is justifying FTEs your primary use of benchmarking reports?

Table 10

Round Two Question Four Summary

Delphi Panelists' Categorization	Frequency of Response
Mostly	2
Yes	5
Not in this role	1

a. Mostly. We use it for some other planning but yes, mostly for FTEs. It seems like I am always high and need to cut. I would like to know if I really do need to cut.

b. Yes.

c. Not as much in the role I am in now. I use it for the square footage information and the utility usage. I need it to help predict construction costs.

d. Yes.

e. Yes. We work to keep staffing at the 50th percentile.

f. Yes. It seems like that is all finance wants to see on the reports. It is good to stay lean, but I want to make sure it is because the surveys and information are accurate from one building to another. Older buildings require more work than other buildings.

g. Yes. I use it to justify hiring more people.

h. Mostly. I also look for trends to see where I compare. Mostly tends in utility usage.

Question Five

Other than square footage, what additional information would be helpful to include in the surveys?

Table 11

Round Two Question Five Summary

Delphi Panelists' Categorization	Frequency of Response
What buildings being compared to	3
FCI/Building condition	3
HCAHP	1
satisfaction survey	1
Not just square footage	1
Age and type	2
Region	1

a. I would like to see something that tells me what buildings I am being compared to. Something like a building condition assessment would be nice to see. I just want to know what the other buildings are like such as age, use, etc.

b. Something that tells me more about the types of building I am being compared to. An FCI score would be helpful. That would show me what I am being compared to.

c. Types and assessment of buildings. It seems like we are all being held to some type of FCI or Condition Assessment. Why not include this information in the survey. ASHE has a standard building assessment. There are lots of them out there.

d. Some type of information regarding buildings condition. I need to see what buildings I am being compared to. Are they in good shape, are they

the same type of healthcare facility? I need to see more information like that. It would be good to see an index score or an internal assessment score. Also are the other facilities all CMS certified? I need that information.

e. H-cap scores or Gallup scores would be helpful. That would give us a comparison to what the other buildings are like. I don't want to be compared to other buildings that are poorly designed or poorly maintained where everyone is unhappy. More information into the usage and type of the buildings and how they are maintained. Are they falling apart and rundown? An index score would be good to know about as well. We all have this information and should be willing to share it. It is the buildings that don't want to share it that I am concerned with being compared to.

f. Square footage can't be the only metric we are reporting. Age, type, use, geographical area should all be considered.

g. Region information and information by state.

h. More details- Age and classifications of buildings are needed.

Question Six

Other than square footage, what other categories would be helpful to include in the surveys?

Table 12

Round Two Question Six Summary

Delphi Panelists' Categorization	Frequency of Response
No other categories	2
Condition assessments	3
Type of facility	2
Geographical area	2
HCAHP	1
Age and type	2

a. I can't think of any right now.

b. No

c. Condition assessments, FII, type of construction. Those would all be nice to include.

d. Type of healthcare facility would be a good category. Ambulatory or acute, that would be nice to know. I haven't thought much about other categories. But it would be a clever idea to see more categories. Something like geographic area, trauma centers, how many beds in a hospital. Those would be good categories. Mostly anything that can describe the condition of the building. I don't want my well-kept buildings to be compared to others that are not in good shape.

e. I think anything that would give me an idea in my mind to what I am being compared to. Even within my own buildings there are some that should not be compared to others just by square footage. Some are rural

community health centers, and some are large state of the art trauma

centers. Some categories to look at would be H-Cap scores, Gallup or

similar surveys. Also, Joint Commission surveys. If other groups are

willing to share their surveys and findings that could be helpful in many

ways. Not just for benchmarking. It would be good to see these results in

geographical areas. FCI scores would also be very helpful. Those are easy

to do by everyone. Age of building should also be included.

f. I would like to see age and geographical area. Square footage could be a

category as long as it is not the only factor. Joint commission surveys and

FCI's would be good. All of those would be helpful. Mostly there needs to

be a way to distinguish between high capacity buildings, rural buildings,

older buildings. Type of construction would also be good.

g. Age and classification.

Summary

The Delphi Panel Research Method identified items that are not working in

current benchmarking studies as well as items to be added. A reoccurring item is there

needs to be more comparison factors other than gross square footage and square foot per

FTE. This idea came up over and over. It is not an accurate comparison method on its

own. Additional factors suggested to be added to future benchmarking reports include

an online/digital delivery format. Data that can be searched and saved was the

preference. A platform where different scenarios could be tried and tested was also

preferred.

An additional takeaway was the request that benchmarking studies related to FM should be sent to the FM departments for data collection. Most studies are currently being sent to finance.

More consistency in comparison data was also requested. Some variables need to be added to the reporting to accomplish this. Suggestions were:

     a. Age

     b. Type

     c. Condition

     d. Use

     e. Capacity

CHAPTER 5

RESULTS/FINDINGS

Findings

Improvements and additions to the current benchmarking report methods were identified through this research. The main takeaways are:

1. An online/digital delivery method is the preferred method. Online interactive and customizable data with the ability to run scenarios would be ideal.

2. FM teams are often not included in the data collection of the benchmark reports. Including FM groups would allow more accuracy and more detailed data resulting in more detailed and in-depth reports.

3. More consistency and "apples to apples" comparisons need to be provided in the reports. More categories and variables need to be added to the reports to offer more in depth comparisons and assessments between buildings. Identifiers to help the readers compare the physical condition of their facility to others needs to be included. Suggestions are as follows:

    a. Facility Condition Index (FCI) - easily available to all participants to provide an idea of the upkeep and maintenance of their facility to that of others.

    b. An indicator on whether the comparison buildings are CMS accredited.

4. GSF is not an accurate assessment on its own. Too many variables are left unidentified to offer an accurate assessment with this method alone.

5. It was unanimous across the panel members that changes need to be implemented to provide more consistency and comparable data between

buildings. Although most panelists did not have details on how to accomplish this.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

Summary

The problem of gaps and inconsistencies in benchmarking report data collection and delivery methods was discovered. The objective of this research was to identify:

1. Identify the specific gaps that exist in the current benchmarking data collection and delivery methods

2. Identify the extent and range of these gaps with specific details

3. Identify the tools, resources, data collection methodologies, needed to solve the gaps and deficiencies

The research methodology used for this paper was the Delphi panel method. Consisting of eight experts in the field of healthcare FM. Each panelist participated in two separate rounds of questions involving six questions in each round. The scope of research included individuals with healthcare FM experience in Utah. A literature review was performed to identify the substantiation of the problem statement. The literature reviewed concluded that while there are currently good methods there were still gaps.

The data collected from the Delphi panel was then analyzed for patterns and trends in the data. Common trends and answers were identified from the answers in round one. This information was then used to create the round two questions. The questions were developed and presented to the panelists. The round two data was then analyzed and the results from that round were summarized to create the findings. The findings included recommendations for:

2. A digital delivery method

3. Deeper involvement of FM teams in the data collection process

4. More consistency in the data collection and more comparable data

5. Including more variables other than GSF

Benefits of research

       This research will provide guidance and suggestions for future creation and implementation of benchmarking studies. The information in this research document can be used to improve the data collection process, thus collecting more complete data. The recommendations can also be used to improve the delivery method to make the information easier to interpret and use for the FM staff. Improvement of the data collection and delivery methods will result in better information to the facilities which will result in better budget preparation, FTE counts, and many other factors.

Future recommendations

       The researcher's recommendations to others performing this research are:

1. Create two panels being asked the same questions. One panel consisting of FM experts in the healthcare industry and one consisting on FM experts in various other industries. This would identify if the needs in healthcare benchmarking are unique to other areas of the FM trade.

2. Expand the research scope to multiple states.

Conclusion

       The concluding factor of this research paper is gaps were suspected in the data collection and delivery methods of benchmarking reports. This suspicion was confirmed through the literature review. A Delphi panel consisting of FM experts in the healthcare

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industry was then assembled. Through the Delphi Panel process deficiencies were

identified and suggestion for improvement made for future benchmarking studies.

REFERENCES

Adewunmi, Yewande Adetoro; Omirin, Modupe; Koleoso, Hikmot (May 2015)
Benchmarking challenges in facilities management in Nigeria
Journal of Facilities Management, 05 May 2015, Vol.13(2), pp.156-184

American Society for Healthcare Engineering Operations and Maintenance
Benchmarks for Health Care Facilities Report

Benchmarking: a method for continuous quality improvement in health.
Ettorchi-Tardy, Amina; Levif, Marie; Michel, Philippe Ettorchi-Tardy, Amina
(correspondence author); Ettorchi-Tardy, Amina (record owner)
Healthcare policy = Politiques de Sante, May 2012, Vol.7(4), pp. e101-e119

FMLink. (2020). Retrieved from https://fmlink.com/articles/the-value-of-
facility condition-assessments-to-sustainability-programs

HCAHPS Online
https://www.hcahpsonline.org Centers for Medicare & Medicaid Services, Baltimore,
MD. 2020.

IFMA Foundation Benchmarking for Facility Professionals
A how-to guide for FM professionals to help them make informed decisions about how to
benchmark and achieve benchmarking goals.

International Facilities Management Association Benchmarking 2.0: Health Care
Facility Management Report

International Facilities Management Association Benchmarks V
Research Report #30- Annual Facility Costs
IFMA Community. (2020). Retrieved from
https://community.ifma.org/fmpedia/w/fmpedia/2459

Khalil, Natasha; Kamaruzzaman, Syahrul Nizam; Baharum, Mohamad Rizal;
Husin, Husrul Nizam (January 2015)
Benchmarking Users' Feedback as Risk Mitigation in Building Performance for Higher
Education Buildings (HEB)
Procedia - Social and Behavioral Sciences, Vol.168, pp.171-180

Loosemore, M; Hsin, Y.Y (December 2001)
Customer-focused benchmarking for facilities management
Facilities, Vol.19(13/14), pp.464-476

McCullough, C.S. (2010) Sigma Theta Tau International. *Evidence-based design
for healthcare facilities.* Indianapolis, IN: Sigma Theta Tau International

Mulva S.P., Dai J. (October 2009). Healthcare Facility Benchmarking.
https://doi.org/10.1177/193758670900300104. 2/02/19

Olson, Chris (2014) Benchmarking, blind men and buildings. *Buildings, Vol.108(1),* p.12(1)

Róka-Madarász, Lívia; Mályusz, Levente; Tuczai, Péter (June 2016) Benchmarking facilities operation and maintenance management using CAFM database: Data analysis and new results
Journal of Building Engineering, Vol.6, pp.184-195

Roth, Jonathan; Rajagopal, Ram (June 2018)
Benchmarking building energy efficiency using quantile regression
Energy, Vol.152, pp.866-876

Shabunko, V.; Lim, C.M.; Brahim, S.; Mathew, S. (December 2014)
Developing building benchmarking for Brunei Darussalam
Energy & Buildings, Vol.85, pp.79-85

Sliteen, Samer; Boussabaine, Halim; Catarina, Orlando (September 2011)
Benchmarking Operation and Maintenance Costs of French Healthcare Facilities
Journal of Facilities Management, Vol.9(4), pp.266-281

The Joint Commission. (2020). Retrieved from jointcommission.org

Thonon, Frédérique; Watson, Jonathan; Saghatchian, Mahasti (September 2015)
Benchmarking facilities providing care: An international overview of initiatives
SAGE Open Medicine, Vol.3

Varcoe, Barry J (March 1996)
Business-driven facilities benchmarking
Facilities, Vol.14(3/4), pp.42-48

Wiggins, J. M. (2010). *Facilities Manager's Desk Reference.* Chichester, West Sussex, UK; Ames, Iowa, USA: Blackwell

APPENDIX A

DELPHI PANEL ROUND ONE QUESTIONS AND RESPONSES

Interviewee A

1. What is missing from existing facility benchmarking reports? -Not all apples to apples. The information curve could be more accurate

2. What information in current benchmarking reports was helpful? Cost per square foot. Also, FTEs per square foot.

3. How do you use the benchmarking data in your organization? To look for best practices and to compare and develop best practices.

4. What would be your preferred method for the data to be presented to you? Cost per square foot. FTE per square foot ranking. 50%- 75% is the range we shoot for.

5. Have you currently participated (responded to) a benchmarking survey? Yes.

6. Are there other colleagues you know that would be valuable to participate in this survey? No

Interviewee B

1. What is missing from existing facility benchmarking reports? They don't take into consideration different facilities and operations. They do not take specifics into account.

2. What information in current benchmarking reports was helpful? Big corporations go by amount of equipment they service.

3. How do you use the benchmarking data in your organization? I use it for a generalization. Where we should be and then investigate the details. If someone is different then we find out why.

4. What would be your preferred method for the data to be presented to you? Graphs, online data that I can see quickly. Something visual. Something I can save.

5. Have you currently participated (responded to) a benchmarking survey? Yes. I have done the ASHE ones.

6. Are there other colleagues you know that would be valuable to participate in this survey? No.

Interviewee C

1. What is missing from existing facility benchmarking reports? Target information- only have a number. Don't fully capture expectations.

2. What information in current benchmarking reports was helpful? Building condition assessments.

3. How do you use the benchmarking data in your organization? Generating planning documents gives us an idea of the future.

4. What would be your preferred method for the data to be presented to you? In an online format that I can manipulate myself. I would like the data to be customizable to my organization.

5. Have you currently participated (responded to) a benchmarking survey? Yes, lots. I work for the government through the VA and have participated there. I have also participated through USHE.

6. Are there other colleagues you know that would be valuable to participate in this survey? No.

Interviewee D

1. What is missing from existing facility benchmarking reports? Hard to get
   information. Information seems to go out of date quickly.

2. What information in current benchmarking reports was helpful? Square footage
   per FTE for facilities, HVAC, electrical, janitorial, and plumbing.

3. How do you use the benchmarking data in your organization? Justify hiring
   FTEs. We shoot for the 50th percentile range and go from there. Accounting
   does not allow is to go beyond that number. We also use it for FTE forecasting.

4. What would be your preferred method for the data to be presented to you? In a
   report that is written and accessible online. More region specific. There is not a
   good category very medical clinics versus hospitals.

5. Have you currently participated (responded to) a benchmarking survey? No.

6. Are there other colleagues you know that would be valuable to participate in this
   survey? No.

Interviewee E

1. What is missing from existing facility benchmarking reports? The whole thing!
   Data that is meaningful to every organization. KPI's. An industry standard of
   what the KPI's are. The current KPI's are not used in the current organization.

2. What information in current benchmarking reports was helpful? Square footage
   information. Utility costs and operational costs are helpful. I have seen these in
   most organizations.

3. How do you use the benchmarking data in your organization? For my role
   specifically construction costs are used. GSF means are used more specifically.
   Budget forecasting to be specific. I also use the information for staffing.

4. What would be your preferred method for the data to be presented to you? Some form of a query would be nice. You know what you're looking for and don't need to search through a lot of data. Instead of making the data prove your point, query the data. Also regionalizing the data would be good. Not all buildings use the same data or operate the same way so regionalized data would be good. Also, a query and sort data by more similar occupancy types. Graphs and numbers are always nice.

5. Have you currently participated (responded to) a benchmarking survey? No

6. Are there other colleagues you know that would be valuable to participate in this survey? No

Interviewee F

1. What is missing from existing facility benchmarking reports? Greater analysis of operational similarities and location rather than just square footage comparison.

2. What information in current benchmarking reports was helpful? Utility usage and costs for similarly sized, located and functioning entities.

3. How do you use the benchmarking data in your organization? Looking for anomalies or trends in utility usage for buildings that are similar in size and function and that share the same heating & cooling mediums from a central plant.

4. What would be your preferred method for the data to be presented to you? Digitally and saved on a server for archiving purposes to obtain historical trends.

5. Have you currently participated (responded to) a benchmarking survey? Yes, at my previous job.

6. Are there other colleagues you know that would be valuable to participate in this survey? No.

Interviewee G

1. What is missing from existing facility benchmarking reports? Most important thing missing is something to level the playing field. Square footage does not cut it. Toilet room density, sink density is not factored in. Some facilities have more equipment per square foot. A small hospital may have multiple small chillers that are as much work as a large hospital with one chiller. Inconsistencies in the data numbers makes it hard to compare the data. There needs to be a control group. Possibly interviews rather than electronic surveys. Hard to determine which employees fit where. What is counted as square footage and what is not? Square footage is interpreted differently. The data collection process has too many inconsistencies.

2. What information in current benchmarking reports was helpful? Staffing levels. The data still provides a broad target to shoot for even though it is not accurate. The finance departments use data for staffing, and it is not accurate. If we are being held to data for staffing numbers, the comparison data needs to be accurate.

3. How do you use the benchmarking data in your organization? We use the data to justify becoming leaner. We try to meet the 50th percentile of reports. I look at those areas to shuffle my guys around.

4. What would be your preferred method for the data to be presented to you? Interactive website where I can customize the numbers and run scenarios. It would be nice to forecast using a customizable field or calculator.

5. Have you currently participated (responded to) a benchmarking survey? Yes.

6. Are there other colleagues you know that would be valuable to participate in this survey? No.

Interviewee H

1. What is missing from existing facility benchmarking reports? Consistency in the data that is reported. Also, Consideration or an accurate way to factor in contracted work rather than self-performed. Clarification between are we counting heads or FTEs. Are we subtracting out meetings, vacations, etc. and are we counting one FTE as one person? There tends to be secrecy on who is responding to the surveys. Are we seeing accuracy? We need more transparency in respondent credentials and background.

2. What information in current benchmarking reports was helpful? It would be good to better understand reports. No data is particularly helpful right now. How do we measure square footage per employee? Is healthcare counted differently? How is healthcare square footage calculated? Are we considering Mechanical? Data is not as useful as it could be or should be.

3. How do you use the benchmarking data in your organization? We look at 50th percentile and try to reduce staffing to 50th percentile.

4. What would be your preferred method for the data to be presented to you? Hospitals categorized by size, type, (acute, specialty). I would like to understand H-cap or Gallup comparisons to Joint Commission survey results. Are we comparing good hospitals to good hospitals? Or are we comparing a well ran, well managed building to a poorly ran, low scoring building? What does the Facility Index condition look like? What condition is the hospital in? Is there

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deferred maintenance? We need more depth and a better understanding of what we are being compared to.

5. Have you currently participated (responded to) a benchmarking survey? No. Accounting and staffing are the ones that respond to benchmarking reports at my company. HR is also responding.

6. Are there other colleagues you know that would be valuable to participate in this survey? No.

APPENDIX B

DELPHI PANEL ROUND TWO QUESTIONS AND RESPONSES

Interviewee A

1. What delivery format for benchmarking survey results would be most useful? - Online customizable data would be valuable. Data that can be used for different scenarios. I would like data I can use to forecast and predict with. That would be a huge improvement.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? It would be nice if Facilities was included in responding to the survey. I might not have all the answer, but I would like to be included.

3. What changes could be made to the survey to make it more consistent? I would like to see more consistency between the buildings that are surveyed. What other buildings am I being compared to? I would like to know that.

4. Is justifying FTEs your primary use of benchmarking reports? Mostly. We use it for some other planning but yes, mostly for FTEs. It seems like I am always high and need to cut. I would like to know if I really do need to cut.

5. Other than square footage, what additional information would be helpful to include in the surveys? I would like to see something that tells me what buildings I am being compared to. Something like a building condition assessment would be nice to see. I just want to know what the other buildings are like. Age, use, etc.

6. Other than square footage, what other categories would be helpful to include in the surveys? I can't think of any right now.

Interviewee B

1. What delivery format for benchmarking survey results would be most useful?

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? The surveys should be answered by Facilities or at least let us help. It seems that HR answers the surveys and we don't get a say.

3. What changes could be made to the survey to make it more consistent? Different types of buildings should have different information in the surveys. I don't know which buildings my building is compared to. I need to know more about that.

4. Is justifying FTEs your primary use of benchmarking reports? Yes.

5. Other than square footage, what additional information would be helpful to include in the surveys? Something that tells me more about the types of building I am being compared to, A facility Integrity Index score would be helpful. That would show me what I am being compared to.

Interviewee C

1. What delivery format for benchmarking survey results would be most useful? I think it would be nice if it was more visual. Graphs, charts, etc. Also, if the data was searchable that would be a good improvement. That data would be very useful. Yes, it would be good if I could search it.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? Facilities should be responding to the surveys. I know that is not what is happening, but it should be.

3. What changes could be made to the survey to make it more consistent? More consistent KPI's. I don't know who is being compared to what. Using the same KPI's would make it easier to justify using that data.

4. Is justifying FTEs your primary use of benchmarking reports? Not as much in the role I am in now. I use it for the square footage information and the utility usage. I need it to help predict construction costs.

5. Other than square footage, what additional information would be helpful to include in the surveys? Types and assessment of buildings. It seems like we are all being help to some type of FII (Facility Integrity Index) or Condition Assessment. Why not include this information in the survey? ASHE has a standard building assessment. There are lots of them out there.

6. Other than square footage, what other categories would be helpful to include in the surveys? Condition assessments, FII, type of construction. Those would all be nice to include.

Interviewee D
1. What delivery format for benchmarking survey results would be most useful? Something that is quick and easy to interpret. Something that I can see in different cases for different buildings. It would be nice to see information that can be compared.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? Not finance. Facilities needs to be involved with this information. Finance can help add information, but Facilities should be involved. At the very least notified of what information was given for the survey. It would be best to send the surveys to Facilities to oversee filling out.

3. What changes could be made to the survey to make it more consistent? It needs to be more apples to apples. It would be nice to see how our buildings compare to others.

4. Is justifying FTEs your primary use of benchmarking reports? Yes.

5. Other than square footage, what additional information would be helpful to include in the surveys? Some type of information regarding buildings condition. I need to see what buildings I am being compared to. Are they in good shape, are they the same type of healthcare facility? I need to see more information like that. It would be good to see an Index score or an internal assessment score. Also are the other facilities all CMS certified? I need that information.

6. Other than square footage, what other categories would be helpful to include in the surveys? Type of healthcare facility would be a good category. Ambulatory or Acute, that would be nice to know. Other categories would be good. I haven't thought much about other categories. But it would be a good idea to see other categories. Something like Geographic area, Trauma centers, how many beds in a hospital. Those would be good categories. Mostly anything that can describe the condition of the building. I don't want my well-kept buildings to be compared to others that are not in good shape.

Interviewee E

1. What delivery format for benchmarking survey results would be most useful? A format where the data can be queried. Data that can be searched through and analyzed. Right now, the data is inconsistent and not useful. It needs to be data that can be helpful and add value to the organization. Also, more detailed information giving characteristics of the other buildings. Categorize them somehow.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? Facilities management needs to be involved with filling out these surveys. Accounting and HR are the ones doing it now and they are good to

respond but they do not understand the data. The first step in making this data more accurate is to collect more accurate data.

3. What changes could be made to the survey to make it more consistent? It needs to be consistent and right now I have no way of knowing if it is. Even in the buildings in my current job I can see inconsistencies in the reporting of the data.

4. Is justifying FTEs your primary use of benchmarking reports? Yes. We work to keep staffing at the 50th percentile.

5. Other than square footage, what additional information would be helpful to include in the surveys? H-cap scores or Gallup scores would be helpful. That would give us a comparison to what the other buildings are like. I don't want to be compared to other buildings that are poorly designed or poorly maintained where everyone is unhappy. More information into the usage and type of the buildings and how they are maintained. Are they falling apart and rundown? And Index scores would be good to know about as well. We all have this information and should be willing to share it. It is the buildings that don't want to share it that I am concerned with being compared to.

6. Other than square footage, what other categories would be helpful to include in the surveys? I think anything that would give me an idea in my mind to what I am being compared to. Even within my own buildings there are some that should not be compared to others just by square footage. Some are rural community health centers, and some are large state of the art trauma centers. Some categories to look at would be H-Cap scores, Gallup or similar surveys. Also, Joint Commission surveys. If other groups are willing to share their surveys and findings that could be helpful in many ways. Not just for benchmarking. It would be good to see these results in geographical areas. Facility Integrity Index

scores would also be very helpful. Those are easy to do by everyone. Age of building should also be included.

<u>Interviewee F</u>

1. What delivery format for benchmarking survey results would be most useful? I don't think the delivery method is as important as the information that is delivered. Online, searchable data would be ideal. Mostly I am concerned with what is being delivered. A website that can be repeatedly accessed and shared across my group would be nice. I would like to be able to run scenarios with it.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? At my building Finance and HR are filling out the surveys. I would like to be involved in the process. I need to be able to help. I have asked these groups to involve me in all future benchmarking.

3. What changes could be made to the survey to make it more consistent? The playing field needs to be leveled. We need to see more details about what we are reporting on. Geographical area would be nice to see. Ideally, we need more consistency.

4. Is justifying FTEs your primary use of benchmarking reports? Yes. It seems like that is all finance wants to see on the reports. It is good to stay lean, but I want to make sure it is because the surveys and information are accurate from one building to another. Older buildings require more work than other buildings.

5. Other than square footage, what additional information would be helpful to include in the surveys? Square footage can't be the only metric we are reporting. Age, type, use, geographical area should all be considered.

6. Other than square footage, what other categories would be helpful to include in the surveys? I would like to see Age and Geographical area. Square footage could be a category as long as it is not the only factor. Joint commission surveys and FII's would be good. All of those would be helpful. Mostly there needs to be a way to distinguish between high capacity buildings, rural buildings, older buildings. Type of construction would also be good.

Interviewee G

1. What delivery format for benchmarking survey results would be most useful? Online with different regions.
2. Which group/position would best serve as the contact point for gathering facility benchmarking data? Facilities Management.
3. What changes could be made to the survey to make it more consistent? More apples to apple comparisons. I like the FTE square footage numbers.
4. Is justifying FTEs your primary use of benchmarking reports? Yes. I use it to justify hiring more people.
5. Other than square footage, what additional information would be helpful to include in the surveys? Region information and information by state.
6. Other than square footage, what other categories would be helpful to include in the surveys? Like I said regions would be good. More Geographic information. Also, age of building and type of building.

Interviewee H

1. What delivery format for benchmarking survey results would be most useful? Information other than just square footage. Something that can be used to make

better decision. An electronic format would be helpful. Something that can be searched and saved so it can be accessed later.

2. Which group/position would best serve as the contact point for gathering facility benchmarking data? Facilities Management.

3. What changes could be made to the survey to make it more consistent? More detail to distinguish between buildings. I want to know more than just square footage.

4. Is justifying FTEs your primary use of benchmarking reports? Mostly. I also look for trends to see where I compare. Mostly tends in utility usage.

5. Other than square footage, what additional information would be helpful to include in the surveys? More details. Age and classifications of buildings are needed.

6. Other than square footage, what other categories would be helpful to include in the surveys? Age and classification.